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July 30, 1998

By Hand Delivery

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
Room 222, Mail Stop 1170
1919 M Street, N.W.
Washington, DC 20554

BOSTON
HOUSTON
NEW YORK
SOUTHERN CALIFORNIA
SILICON VALLEY
TWIN CITIES
WASHINGTON, DC

Re: Our File 03133/009001
ET Docket No. 98-80
Comments of Inline Connection Corporation

Dear Ms. Salas:

On July 27, 1998, we filed an original and five copies of comments on behalf of our client Inline Connection Corporation in ET Docket No. 98-80.

It has come to our attention that some of the copies submitted to the Commission inadvertently may not have contained Exhibit 1. Accordingly, enclosed are six copies of the original comments, each of which contains Exhibit 1. We also note that the comment deadline in this matter was extended to September 8, so the enclosed substitute comments are timely filed.

Please contact the undersigned if you have any questions regarding this matter.

Very truly yours,

Keith A. Barritt

Keith A. Barritt

Enclosures

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

| | | |
|---|---|---|
| In the Matter of | ) | |
| 1998 Biennial Regulatory Review -- Conducted Emissions Limits Below 30 MHz for Equipment Regulated Under Parts 15 and 18 of the Commission's Rules | ) | ET Docket No. 98-80 |

**COMMENTS OF**
**INLINE CONNECTION CORPORATION**

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Keith A. Barritt, Esq.
FISH & RICHARDSON P.C.
601 13th Street, N.W.
Washington, DC 20005

Counsel for Inline Connection Corporation

July 27, 1998

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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To: The Commission

**COMMENTS OF**
**INLINE CONNECTION CORPORATION**

Inline Connection Corporation ("Inline"), by its counsel, hereby submits these comments in response to the Commission's Notice of Inquiry, FCC 98-102 (released June 8, 1998) ("NOI"). Inline is the developer of a TV interface device that is designed to amplify and transmit the signals from a video cassette recorder or cable television receiver over in-building telephone lines to remote television sets. In connection with the certification of Inline's device, the Commission required Inline to perform radiated measurement testing below 30 MHz because the device also operates as an unintentionally radiating carrier current system. Inline is submitting these comments in response to the Commission's open solicitation to comment on changes needed in the regulations governing carrier current systems. NOI at ¶ 14.

## I. Introduction

Section 15.109(e) of the Commission's rules requires carrier current systems used as unintentional radiators or "other unintentional radiators that are designed to conduct their radio frequency emissions via connecting wires or cables and that operate in the frequency range of 9 kHz to 30 MHz" to comply with the radiated emissions limits below 30 MHz for intentional radiators set forth under Section 15.209. Because the definition of unintentional radiator includes any device that "sends radio frequency signals by conduction to associated equipment via connected wiring,"[1/] Section 15.109(e) technically encompasses virtually all telecommunications equipment and local area network ("LAN") products that conduct data signals over the in-building telephone or other wiring on a customer's premises.[2/]

To Inline's knowledge, the Commission has never enforced Section 15.109(e) with respect to LAN products, although Commission officials have indicated to Inline that such enforcement remains an option that has been "under study." However, the Commission specifically required Inline to perform radiated emissions tests below 30 MHz when it certified its TV interface device in 1993, despite the fact that the Inline device operated identically to many types of LAN products that also send signals over in-building twisted pair wires but which are not required to test below 30 MHz.[3/]

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[1/] 47 C.F.R. § 15.3(z).

[2/] Standard voice telephony equipment, such as standard dial-up modems, are not captured by the language of Section 15.109(e) because such voice signals are generally conducted at frequencies below 9 kHz (typically 3 kHz).

[3/] See FCC ID #JRETRX827 certification file and letter of August 15, 1991 from Inline counsel to Mr. Edward Gibbons of the FCC Laboratories memorializing the requirement to test Inline's device for emissions below 30 MHz (Exhibit 1 hereto).

As described herein, such continued selective enforcement of Section 15.109(e) would be arbitrary and capricious, as there are no regulatory distinctions between Inline's device and LAN equipment. The Commission should therefore take this opportunity to clarify either that the radiated emissions limits under 15.109(e) apply only to systems that utilize electric power lines, or, at a minimum, that the limits apply to all devices regardless of the type of "wire or cable" utilized. The current situation permitting unequal treatment of similarly situated devices must not be allowed to continue.

## II. The Commission Did Not Intend for Section 15.109(e) to Apply to All Wireline Devices

Based on the history of Part 15, it appears the Commission intended Section 15.109(e) to apply only to carrier current devices or other unintentional radiators conducting signals over electric power lines. Prior to 1976, there were no carrier current applications other than those that used the electric power lines. In 1976 the Commission proposed to define a carrier current system as a system in which "a restricted radiation device transmits RF energy over wires, or any other conductor, to a receiving device connected to the same conductor or system of conductors."[4/] That proposed definition clearly would have included systems that conducted signals over in-building twisted pair wiring. In the 1989 Part 15 rewrite, however, the Commission rejected that all-encompassing concept, narrowing the

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[4/] See Amendment of Part 15 Rules to Redefine and Clarify the Rules Governing Restricted Radiation Devices and Low Power Communication Devices, Docket No. 20780, Notice of Proposed Rulemaking, 62 FCC 2d 666 (1976), 41 Fed. Reg. 17938, at proposed § 15.4(n).

definition of carrier current to systems that conduct RF energy specifically over electric power lines only.[5/]

In discussing Section 15.109(e), the Commission specified that it was setting the limit at 30 MHz for unintentional radiators "as this corresponds to the frequency range specified for AC power line conducted emissions. . . . Below 30 MHz, only limits on the amount of radio frequency energy conducted onto the AC power lines apply to most devices."[6/] Thus, the intent of Section 15.109(e) is to control emissions conducted onto the electric power lines, and not simply emissions conducted onto any "wire or cable." Given this administrative history, there is no rationale for treating either Inline's device or LAN equipment, neither of which utilize electric power lines, as carrier current devices subject to radiated emissions limits below 30 MHz.

## III. Application of Section 15.109(e) to All Wireline Devices is Impractical and Contrary to the Public Interest

The Commission has always viewed the application of radiated emissions limits to carrier current systems operating below 30 MHz primarily as a means to protect AM broadcasts from signals intentionally (and to a lesser degree, unintentionally) radiated off the electric power line, which carrier current systems essentially use as an antenna.[7/] However,

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[5/] See 47 C.F.R. § 15.3(f).

[6/] Revision of Part 15 of the Rules regarding the Operation of Radio Frequency Devices without an Individual License, Gen. Docket No. 87-389, First Report and Order, 66 RR2d 295, 313, ¶ 81 n.38, 54 Fed. Reg. 17710 (1989) (emphasis added).

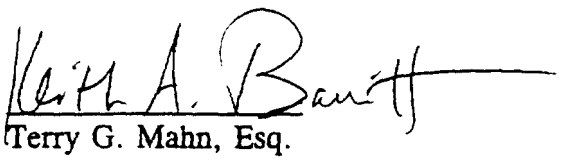
[7/] See, e.g., Amendment to Part 15 to Enable the Widespread Implementation of Home Automation and Communication Technology, ET Docket No. 91-269, 6 FCC Rcd 5409, 5410 (1991), at ¶ 7.

all devices that utilize telephone wiring or other cabling to communicate signals within buildings are required to meet conducted limits below 30 MHz. This has been sufficient to protect other system users, as seen by the lack of interference complaints from the tens of thousands of LAN cards on the market. Thus, formally eliminating the requirement to test for radiated emissions for non-powerline devices operating below 30 MHz would not result in any increased interference, whereas the cost of compliance with Section 15.109(e) for the many non-powerline products on the market would far outweigh the benefits to be achieved.

## IV. Conclusion

Section 15.109(e) has been interpreted inconsistently and arbitrarily by the Commission leading to confusion among manufacturers and users. To address this inherent unfairness, the Commission should either amend Section 15.109(e) to clarify that it applies only to unintentional radiators that utilize electric power lines for sending signals, or by specifying that it applies to all devices regardless of what type of wire or cable they use. The current situation is unmanageable, as it invites the abuse of discretion by Commission personnel in the selective enforcement of Section 15.109(e). Whatever path the Commission chooses, the result should be that all similarly situated devices, such as Inline's device and LAN equipment, are subject to the same regulatory treatment.

Respectfully submitted



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July 27, 1998

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EXHIBIT 1


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OAK BROOK
708 573-1999
FAX 708 573-2563


August 15, 1991



Mr. Edward Gibbons
FCC Laboratories
7435 Oakland Mills Road
Columbia, Maryland 21046

Re: Measurement Procedures for
Inline Device

Dear Ed:

This is to follow-up our agreement and understanding reached during our meeting at the FCC Laboratories on August 14, 1991. At that meeting, Dave Goodman, President of Inline Corporation, and I discussed with you the measurement procedures to be followed in testing the Inline TV interface device. I also gave you copies of letters dated October 3, 1989 and May 9, 1991 from the Technical Standards Branch, indicating the technical standards that apply to this particular device.

It was our agreement and understanding that radiated emissions testing would be performed at an open field site. For measurements below 30 MHz, the measurements would be made at 3 meters and extrapolated to the 30 meter limits set forth in the Commission's rules using an inverse distance squared ($1/d^2$) conversion factor (see Rule 15.31(f)(2)). To insure that the Inline device is measured in a typical worst case configuration you requested that the device be tested at three different cable lengths: one-half wave length, one-quarter wave length and one-eighth wave length (based on a fundamental frequency of 22.5 MHz). All cable lengths are to be measured in both a horizontal and vertical configuration. You indicated that a "compromise configuration" may be necessary if the test site is cannot accommodate a full vertical extension of a one-half wave length cable.

For conducted power line and output signal emissions you indicated that Inline only would be required to select the worst case cable length to perform such testing. It was also agreed and

understood that if Inline should run into difficulty performing tests on an open field site, it would still be able to elect the special in situ configurations provided in Rule 15.31(d).

I trust this accurately sets forth our understanding of the test procedures required to demonstrate compliance of the Inline TV interface device. As Inline would like to resume testing as soon as possible, please contact me at your earliest convenience if you have any comments or modifications to the foregoing.

Very truly yours,

Terry G. Mahn

TGM:bb

c: David D. Goodman
Inline Connection Corporation